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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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May 26, 2006

Mr. Christopher Penny
Eastern Vieques Remedial Project Manager
Commander Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, VA 23508-1278

Re: Review of the Draft Expanded Range Assessment and Phase II Site Inspection Work Plan for Former Vieques Naval Training Range (VNTR), Vieques, Puerto Rico

Dear Mr. Penny:

The U.S. Environmental Protection Agency (EPA) and the Puerto Rico Environmental Quality Board (EQB) have completed the review of the Draft Expanded Range Assessment and Phase II Site Inspection Work Plan for Former Vieques Naval Training Range (VNTR) dated April 2006. Enclosed you will find our comments.

If you have any questions, please contact me at (787) 741-5201.

Sincerely yours,

Daniel Rodríguez
Remedial Project Manager
Enforcement and Superfund Branch

Enclosures (2)

cc: Doug Maddox, FFRRO, w/ encl.
Yarissa Martinez, EQB, w/ encl.
Felix Lopez, FWS, w/ encl.
Oscar Diaz, FWS, w/ encl.
Tom Hall, Tech Law, w/ encl.
Jim Pastorik, UXO Pro, w/encl.
John Tomik, CH2M Hill, w/ encl.

EPA COMMENTS
DRAFT EXPANDED RANGE ASSESSMENT AND
PHASE II SITE INSPECTION WORK PLAN
FORMER VIEQUES NAVAL TRAINING RANGE (VNTR)
VIEQUES, PUERTO RICO
APRIL 2006

GENERAL COMMENTS

1. The details of the process to be used to inspect the Munitions Response Sites (MRSs), the Photo Identified (PI) sites, the Potential Areas of Concern (PAOC) sites, and the two Areas of Interest (AOIs) under investigation are unclear as to the proposed location and spacing of the transects in the areas where a less than 100 percent inspection is being performed. It would assist the reader in understanding exactly what is proposed if a graphic representation similar to that provided in the *Draft Expanded Range Assessment/Phase I Site Inspection Work Plan*, dated July 2004, (Figures 3-4 through 3-9) was provided for each of these areas. Please revise the Draft ERA & Phase II SI Work Plan to provide these graphics.

2. The investigation procedures proposed for the areas that are being inspected using analog geophysical instruments have instructions that require the recording of the location of all "MEC items that are visually observed" using a Global Positioning System (GPS) receiver. However, this is not done for any large subsurface anomalies noted by the analog instruments. Please provide written justification for this omission or revise the cited procedure to provide for the recording of the location of any large subsurface anomalies discovered during the investigation.

3. The Draft ERA & Phase II SI Work Plan often uses the term "UXO personnel" in instances where it is unclear as to the exact qualifications of the personnel so described. DoD Explosives Safety Board (DDESB) TP 18 (Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel) contains two definitions of terms that could be described as "UXO personnel." These are:

   UXO-Qualified Personnel.
   Personnel who have performed successfully in military EOD positions, or are qualified to perform in the following Department of Labor, Service Contract Act, Directory of Occupations, contractor positions: UXO Technician II, UXO Technician III, UXO Safety Officer, UXO Quality Control Specialist or Senior UXO Supervisor.

   UXO Technician.
   Personnel who are qualified for and filling Department of Labor, Service Contract

Act, Directory of Occupations contractor positions of UXO Technician I, UXO Technician II, and UXO Technician III.

Of primary interest and concern is that the use of the term "UXO personnel" leaves in doubt whether or not UXO Technician I level personnel are included in the situation under discussion. Please replace the term "UXO personnel" where used in the Draft ERA & Phase II SI Work Plan with one of the two terms defined in DDESB TP 18.

SPECIFIC COMMENTS

1. **Acronyms and Abbreviations, page ix:** The acronym "EOD" is defined here as "Explosive Ordnance Detachment." The definition of "TP" provided in NAVSEA OP5 (U.S. Naval Sea Systems Command Ammunition and Explosives Safety Ashore, Regulations for Handling, Storing, Production, Renovation and Shipping) is "Explosive Ordnance Disposal." Please correct this definition.

2. **Acronyms and Abbreviations, page ix:** The acronym "LAWS" is defined here as "Light Anticraft Weapons." However, the acronym "LAWs" is defined as "light anti-craft weapons" on page 2-2 of the Eastern Maneuver Area subsection of Section 2.2, Munitions Area Description. The *Hazard Classification of United States Military Munitions*, Revision 12, February 2004, U.S. Army Defense Ammunition Center, defines the term "LAW" as "Light Antitank Weapon." There is a group of weapons listed as "Light Antiarmor Weapons" (no acronym listed) in FM-23-25 (*Light Antiarmor Weapons*), 17 August 1994. This group consists of the AT-4 rocket and the 66mm M72 Light Antitank Weapon (LAW). That manual also lists the acronym "LAW" as referring to the Light Antitank Weapon. No reference was located during the review that defined the acronyms "LAWS" or "LAWs" as "Light Anticraft Weapons." Please review this acronym and either change its definition to "Light Antitank Weapon(s)" or provide a citable reference that lists the definition found in the Draft ERA & Phase II SI Work Plan.

3. **Section 2.2, Munitions Response Area Description, page 2-2:** Lines 10 and 11 on the cited page reads, "Range 3: Rifle Grenade Range (40mm) and small arms [identified in aerial photo analysis as Range 4 and hereforth identified as Range 4]." This again raises the issue of the 40mm projectile being identified with the term "rifle grenade," which is incorrect nomenclature. The weapons that fire 40mm projectiles that are also identified in military publications as "grenades" include the M79 grenade launcher, the M203 Grenade launcher (which is attached to the underside of the M16 series rifle), and a number of weapons identified as "Grenade Machine Guns." A search of the available references finds the complete 40mm munitions referred to as "40mm cartridges" or "40mm rounds." The term "40mm Rifle Grenade" was not found in any of the reference documents available for review. A check with the Army Technical Center for Explosives

Safety determined that the appropriate nomenclature did not include the word "rifle." Please disassociate these 40mm projectiles (sometimes referred to as "grenades") from the term "rifle" to avoid confusion as to the munitions item intended. If it is necessary to indicate that the range was used for firing 40mm grenade launchers and rifle grenades, please refer to the range as the "Rifle Grenade/40mm Grenade Launcher Range," or similar verbiage to ensure that the potential confusion is eliminated. Please make this change throughout the Draft ERA & Phase II SI Work Plan.

4. **Section 3.1, Rationale and Approach for Phase II Site Inspection, page 3-1:** In the first paragraph of this section, lines 7 through 9 contain a sentence which reads, "In addition to the MRSs to be investigated two areas of interest (AOIs) identified form the LiDAR survey and will be investigated during the ERA/Phase II SI." As currently constructed, this sentence is unclear as to its meaning. Please revise the cited sentence to correct its construction and punctuation to make its intent clear.

5. **Section 3.1, Rationale and Approach for Phase II Site Inspection, page 3-1:** In the fifth paragraph of this section, lines 35 through 38 read, "The approach to the vegetation evaluation prior to clearing will be fully described when the biological assessment is complete; however, it is anticipated that areas will be surveyed by a qualified biologist prior to any clearing to avoid impacts to threatened/endangered plant or animal species." While this anticipated approach is commendable, it is unclear as to what other approaches will be considered if the anticipated process is not employed. Please revise the cited paragraph to provide additional wording that fully describes the potential alternatives that will be considered to ensure that impacts to threatened/endangered plant or animal species are avoided.

6. **Section 3.2, Investigation Procedure, page 3-5:** The third paragraph of this section reads, "Verification Level (VL) III will be the initial VL for all QC inspections of sites being evaluated at 100 percent: a lot will consist of 4 grids (80 total lanes), which total 1 acre and the failure to identify 5 UXO items greater than or equal to 20mm in size for any grid will result in grid failure and the grid will be re-investigated. Verification Level (VL) VII will be the initial VL for all QC inspections of sites being evaluated using a transect approach: 2,400 linear meters of transect will equate to a lot with each meter being a sample unit, the failure to identify 20 UXO items greater than 20mm in size for any lot will result in lot failure and the lot will be re-investigated."

   It is unclear as to why the same basic quality criteria (5 UXO items greater than or equal to 20mm in size for any grid) is not being applied to the areas being evaluated using the transect approach. From a quality evaluation approach, 20 items in the equivalent area of four grids is not the same as 5 items in the equivalent area of one grid. For example, it would be possible to have 19 of the 20mm items found in a one grid equivalent and none in the remaining three,

allowing all four grid equivalents to pass inspection because less than 20 items were found in the entire lot. Also, it is unclear why grids (areas being 100 percent inspected) are initially being quality inspected at a Verification Level of III, whereas the areas inspected by transects are being evaluated at Verification Level VII.

Please revise the quality process for the areas being evaluated by transects to bring it into line statistically with that used for the areas being inspected using a grid system. Also, please expand the cited section to explain the basis for the different Verification Levels for grids and transects.

7. **Appendix A, Health and Safety Plan, Table A-1 Hazard Analysis, pages 3 and 4:** Under the subsection entitled "Transportation of Explosive Materials," a discussion is provided of the qualifications for drivers that transport explosives cargo outside of the boundaries of federal installations. No corresponding discussion of the qualifications for transporting the same cargo inside of these boundaries is provided. As this transportation scenario is the one most likely to involve project personnel in a transportation accident, please include a discussion of the qualifications for transporting explosives inside the boundaries of the installation.

8. **Appendix A, Health and Safety Plan, Table A-1 Hazard Analysis, page 5:** This page contains a subsection entitled "Inspection/certification of ORS*." No definition of the acronym "ORS" is provided. Please correct this omission.

9. **Appendix A, Health and Safety Plan, Table A-1 Hazard Analysis, page 6:** This page contains a subsection entitled "Anomaly Reacquisition." In that subsection it is noted that "Non-UXO Personnel" represent a hazard during MEC operations. It then states that the contractor will "Stop all MEC operations when non-UXO-qualified personnel are within the EZ." The term UXO-Qualified, as defined in DoD Explosives Safety Board TP 18 (Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel), excludes UXO Technician I personnel from the definition of "UXO-Qualified" personnel. In addition, authorized visitors who are not "UXO-Qualified" are now allowed inside the EZ during MEC operations when approved by the appropriate authorities. Please revise this section of the noted table to eliminate the cited discrepancies.

10. **Appendix A, Health and Safety Plan, Section A.4.3.20, Radiological Hazards and Controls, page 20:** This section contains a sentence that states, "An intensive range sweep was initiated at that time and many of the DU rounds were recovered." As a 25mm PGU-20 round consists of a cartridge case, propellant, a primer, and a projectile, it is very unlikely that complete rounds were actually recovered. Please revise the cited sentence to replace the term "rounds" with the term "projectiles" to make it technically correct.

11. **Appendix A, Health and Safety Plan, Attachment 2, A.14 Standard of Practice HSE&Q-610, page unnumbered:** The title sheet for this attachment reads "Standard of Practice HSE&Q-610." However, the document enclosed is entitled "Standard of Practice HSE-610." Please correct this as necessary.

12. **Appendix A, Health and Safety Plan, Attachment 2, A.14 Standard of Practice HSE&Q-610, Section 2.2.3, MEC Removal, page 3:** This section defines the UXOQCS as the "UXO Quality Control Supervisor." However, on page 11 the same acronym is defined as "UXO Quality Control Specialist." Does the contractor have both a UXO Quality Control Supervisor and a UXO Quality Control Specialist on-site, or are these two different terms used to describe the same position? Also, does the acronym apply to both definitions? If so, how does the reader determine which is intended? Please review the cited uses of these acronyms and terms and revise the cited portions of the document (and any other occurrences) as necessary to eliminate this situation.

13. **Appendix A, Health and Safety Plan, Attachment 2, A.14 Standard of Practice HSE&Q-610, Attachment 1, Definitions, page 10:** The definition of Munitions and Explosives of Concern (MEC) provided in this attachment is technically correct. However, the reference citations for the sub elements of the definition should be revised: The citation for Unexploded Ordnance (UXO) should read 10 U.S.C. 101(e)(5). The citation for Discarded Military Munitions (DMM) should read 10 U.S.C. 2710(e)(2). The citation for Munitions Constituents (MC) should read 10 U.S.C. 2710(e)(3). Please make these corrections.

EQB Comments on the
Draft Expanded Range Assessment and Phase II Site Inspection Work Plan
Former Vieques Naval Training Range
Vieques, Puerto Rico
Dated April 2006

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
1	2-2 2-3 3-1	2.2 2.2 3.1	8 – 17 2 – 17 4 - 9	Some of the descriptions of the various sites are getting confusing. There are many sites and they are called by various names. For example, on these lines we have Ranges 1 through 6 which are also referred to as other range numbers: • Range 3 "here forth identified as Range 4" • Range 4 "here forth identified as Range 4B" • Range 5 "here forth identified as Range 3" Note that the bullet on line 37 at the bottom of page 2-2 contradicts the text on lines 8 through 17. The text says that here forth the ranges will be referred to as Range 1, 2, 3, 4, 4B, and 6. The bullet on Line 37 refers to Ranges 3, 4, 4A, 4B, and 5. There is no mention of Range 4A in the text on lines 8 – 17, so which range is actually Range 4A? There is also the discrepancy between the references to Range 6 in the text and Range 5 in the bullet. It is not possible to understand which range is which EMA MRS by the description provided here. Add to that the fact that the Phase I ERA/SI Report refers to Ranges 3, 4, 4A, 4B, and 6. There is no mention of Range 4A in lines 8 – 17 and we still have the discrepancy between Ranges 5 and 6. Also, Figure 2-4 shows nine ranges along the north road, not six. By the time one gets to page 2-3 a score card is needed to attempt to understand the sites. This text discusses MRS numbers, Range numbers, PIs, PAOCs, and then AOIs are added to the mix in

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
				Chapter 3 (see Figure 3-1). Add this to the fact that the MRS numbers are duplicated between the EMA, SIA, LIA, and ECA and the result is an inability for the reader to understand which site is being discussed. Then, there are two new AOIs listed as being subjects for this work. Since they are not designated, how are they going to be discussed? "AOI North" and "AOI South"? Please explain. A final example of the confusing nature of the site designations used in this document is the text on page 3-1, lines 4 – 9 which reads: "Based on the results of the ERA/Phase I SI the following MRSs will be investigated during the Phase II SI: the entire MRA-ECA; the MRA-Beach Area within the EMA, SIA and LIA; a total of 9 MRSs, including one PI site, and one PAOC site in the MRA-SIA; and a total of 22 MRSs within the EMA, including five PI sites, and three PAOC sites. In addition to the MRSs to be investigated two areas of interest (AOIs) identified from the LiDAR survey and will be investigated during the ERA/Phase II SI. The AOIs are within the boundary of MRS 43." It is very difficult to understand the meaning of these three sentences. Some method is needed to allow the reader to understand which site is being discussed. A scorecard, such as is provided in Table 3-1 may be the answer. Modifying this table (note that it only refers to EMA Ranges 3, 4, 4A, 4B, and 5 and that there is no mention of Ranges 1, 2, and 6) and putting it in the front of the document may be the answer. This issue of numbering and designating sites may deserve a separate chapter because there is little hope of achieving group and public understanding of the project if we can't efficiently refer to sites when they are being discussed.
2	2-2 2-3	2.2 2.2	26 2	This section says that there are no impacts or potential environmental releases observed at PI 9. However, it is known that the shore area of PI 9 is heavily contaminated with MC and possibly MEC. It is recommended that this near-shore contamination be investigated and that PI 9 not be referred to as being documented to have no potential environmental releases. This same comment was made to the Phase I ERA/SI Report.
3	2-3	2.2	18 – 29	These lines describe recommendations from the Phase I ERA/SI Report. It should be noted that

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				EQB has comments on these recommendations as reflected in our comment numbers 27 through 30 in our comments to the Phase I ERA/SI Report. It is recommended that the comments on the recommendations contained in the Phase I ERA/SI Report be resolved first and then this section of the Phase II Work Plan can be revised accordingly.
4	2-4	2.2	3 – 17	This section singles out SIA MRS 1 for a detailed description of its history and hazard screening. However, this is the only site receiving this type of narrative treatment in this chapter of the report. According to page ES-V, SIA MRS 1, 2, 3, 4, 5, 6, 7, other PI and PAOC sites in the SIA are going to be inspected during this SI. Please explain why SIA MRS 1 receives additional narrative treatment in this section over and above what is given to the other sites. Is SIA MRS 1 especially important for some reason?
5	3-2	3.1 Fig. 3-2	10 – 12	The beach areas to be investigated are shown on Figure 3-2. It would be appropriate to reference Figure 3-2 in this section. Also, the legend on Figure 3-2 should be enlarged to make it consistent with the other figures throughout the plan.
6	3-2 3-2	3.1 3.1	30 – 35 37 - 39	These sections describing the approach for the investigation in the SIA and EMA don't say what is going to be done. Note that the description of the investigation for the ECA says the investigation will be a "surface MEC evaluation using a transect approach". It is recommended that similar information be added to the section on the SIA and EMA.
7	3-5	3.2	9 – 16	The amount of acceptable failures described in this section on QC criteria appears to be inadequate. The allowable failure rate (the number of UXO allowed to be missed) is excessive. It also requires that only UXO be considered to be failures, not ordnance-like objects or even MEC. The allowable number of missed UXO specified is five in each quarter acre or twenty per acre. This is a very large number of allowable failures and is likely unprecedented. It is recommended to: 1. Change the requirement for a failure to be a UXO (note, functioned BDU-33 practice bombs, large pieces of frag, etc, are not UXO but should be found by the geophysics) to being any metal object larger than 20-mm.

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				2. Please provide further explanation for how MIL STD 1916 is being used to arrive at the amount of QC inspection and the allowable failure rate of 20/acre. 3. Explain how many square feet equal a lot for the transect survey. The only number given is 2,400 linear feet and, since the transect width is unknown, the overall size of a lot cannot be determined. 4. Revise the acceptable failure rate to a lower and more reasonable number.
8	3-6	3.2.1	9 – 11	This section says that rocky areas near beaches will not be mapped. While it is agreed that geophysical mapping of rocky areas is not productive, numerous MEC can be easily observed on these rocky areas between beaches. It is recommended that these areas be walked and visually inspected during the Phase II ERA/SI. This can easily and quickly be done and identifying these surface MEC for disposal will help to further decrease the MEC hazard in the area.
9	3-6	3.2.2	28	There is an important typo in this section. This line should refer to "roads" not "beach areas".
10	3-6	3.2.3	36	This line says the ECA has been added to the TCRA "that is currently completed in the LIA" (note: this is assumed to mean the TCRA "that is currently being completed in the LIA"). If this is the case, and the ECA is part of the TCRA, that would mean that the ECA is going to receive 100% surface clearance. In that case, why bother with the description in this section of clearing 5-ft. wide transects and inspecting them? Isn't this all going to be done anyway during the TCRA as stated on line 36? It is stated on page 3-7, line 4 and 5 that the inspection is being done to "gather information to design the Time Critical Removal Action to be completed for this area." But, is this necessary. If it is part of the TCRA why not just do the surface clearance? What additional information is necessary, beside possibly acquiring some ecological data?
11	3-10	3.4	N/A	There is no mention of photos as part of the data management system. The need for a photo record of the project that is managed as part of the overall data management system was discussed during the last CTC meeting and it was said that CH2M Hill agreed that management of photos as part of the data management system was a needed improvement. They said they were working on it and that it should be completed soon. If this has been accomplished please add management of photos to this section.
12	N/A	Fig. 3-3	N/A	This figure contains a new position, "CH2M Hill Field Superintendent". This position isn't described in the Master Work Plan and is not included in the organization chart (Figure 2-1) in the

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
				MWP. How does this position relate to the organization established in the MWP? What are the qualifications and duties of this position?
13	N/A N/A	Fig 3-4 Fig 3-5	N/A N/A	This figure is very confusing. It is not a decision flow diagram because there are very few decision points identified and what decision needs to be made is not identified. For example, refer to the left side of this diagram: 1. MEC is found. Then the "CH2M Hill Safety/QC Supervisor Cliff Walden" is brought into the loop. 2. He then goes to two entities, the "UXO Subcontractor Team" and the "CH2M Hill Superintendent Heather Blackwell". But, it is assumed the "UXO Subcontractor Team" found the UXO in the first place, so what are they supposed to do at this point in the flow chart? 3. The chart then seems to ask if it is safe to move. 4. If safe to move it goes to removal which sends it to "CH2M Hill MRP George Overby", who sends it to Stacin Martin who sends it to Carlton Finley/Madeline Rivera. What is being done by these persons? Are they just notifying each other or are they taking some action? When this chain dead-ends at "Carlton Finley/Madeline Rivera", what happens now? As another example, this process may or may not go through "CH2M Hill Superintendent Heather Blackwell". What is the difference in the situation that determines whether she is or is not in this loop? There are many more examples of questions that are unanswered by the figure and the same can be said of Figure 3-5. There are no decisions represented on Figure 3-5 and only a few instances where one organization notifies another. It is recommended that true decision trees be developed for these functional areas.
14	5-1	5.2	18 – 28	This section references the hazard evaluation and site prioritization performed as part of the Phase I ERA/SI. However, EQB had several comments (comment numbers 25 – 30) on the hazard evaluation and site prioritization in the Phase I ERA/SI which have not been resolved. It is

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
				recommended that EQB's comments on the hazard evaluation and site prioritization in the Phase I ERA/SI be discussed and resolved before the results of that evaluation and screening process are implemented in this work plan.
15	C-1 - C-14	App. B	N/A	The page numbering in this appendix is confusing. First, Appendix B is numbered C-1 through C-14. Then, the attachment (the GPO Plan) is number 1 – 18. Please revise the numbering on these pages to make it easier to identify specific passages. Also, this appendix doesn't use line numbers as have been used, and were very helpful, throughout the rest of the document. Use of line numbers is recommended on all draft documents.
16	C-4 C-4 2 3 4	B.17 B.18 Table 1 2.2.1 2.2.1	N/A N/A Attach to App B Attach to App B Attach to App B	These sections all have a similar theme: that a "site-specific GPO will be used to finalize project DQOs". This is not technically correct. All guidance on this issue (EPA UXO Handbook, ITRC guidance, etc.) require the DQOs to be established first. Then, the GPO either achieves or doesn't achieve the DQOs. If the DQOs are achieved everything can proceed as planned. If they are not achieved then an evaluation should be performed to see if modifications to the process (use of alternate sensors, changes to procedures, etc.) can be implemented to meet the DQOs. If not, then the impact of modifying the DQOs can be considered. The procedure outlined in the Phase II ERA/SI Work Plan is backwards and requires establishment of the DQOs to meet the capabilities of the geophysical system after performance of the GPO. The procedure outlined here is also not in compliance with Bullet #9 of Appendix F of the Master Work Plan (no page number is provided, this bullet is on the fifth page of text in this appendix) which states, "If the DQOs cannot be met by The DGM Contractor, the Title 2 Services Contractor QA Geophysicist will meet with the U.S. Navy to discuss a resolution (i.e. modification of a DQO) prior to completing the GPO." Note that this bullet doesn't say that the DQO will be established after the GPO to comply with the results of the GPO. Also note that the procedure outlined in the text is not consistent with the process shown in Figure 1 which clearly identifies modifying the DQOs (Step 8) as the "Secondary path".
17	N/A	Table	N/A	This is a very useful table. However, there appear to be a few important issues associated with it:

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
	C-13	B-2 B.25	Unnamed figure	1. There is no requirement listed in this table for the blind seeding program that is required by Section B.23 of this appendix. It is recommended that this QC requirement be added to Table B-2. 2. There is an audit requiring checking to "Verify data checks specified in the QCP and SOPs". In order to ensure that this is accomplished it is necessary to list these checks and who is responsible for performing them. This is because these checks are contained in several places and in some cases the guidance conflicts. 3. The unnamed figure on Page C-13 contains some QC checks that should be added to Table B-2 (QC review performed on field forms, QC review performed on pre-processing, QC review performed on processing).
18	C-12	B.24	N/A	This section lists in three places some of the QC checks that are performed ("The following items are among the QC checks performed"). Since Table B-2 is designed to list all of the required QC checks, it is recommended that this section be deleted because it can only cause confusion and conflict with Table B-2. It is recommended that any QC checks in this section that are not included in Table B-2 be added to Table B-2 and that this section be removed from the plan to prevent conflict with the definitive requirements of Table B-2.
19	N/A N/A	App B Attach. App B Attach.	N/A Table 1	Much of the Attachment to Appendix B (the GPO Plan) repeats the requirements of Appendix F to the Master Work Plan. Inclusion of this information only serves to cause confusion where the Appendix B Attachment doesn't agree with Appendix F to the MWP. For example, both documents contain an introductory section on "Purpose". However, the attachment to Appendix B excludes two of the requirements contained in Appendix F to the MWP: "Document system reliability" and "Evaluate estimated field production rates and estimated false positive ratios, as related to project cost". Is the deletion of these requirements a formal modification to the MWP which means that documentation of system reliability and field production rates is not part of the function of the GPO? If so, why? Why was it included as part of the purpose in the MWP and not in the Phase II ERA/SI? And why repeat all of the other requirements verbatim if they are unchanged?

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
				It is recommended that the attachment to Appendix B be scrubbed to eliminate all text that is duplicative to the existing requirements of the MWP because this duplication with only minor changes causes confusion. Also, the section on DQOs is slightly different that that contained in the MWP. For example, the requirement for "Downline Data Density" is not in the MWP and the text for "Survey Coverage (Lane Spacing)" is different than that in the MWP. Are these formal changes which should be reflected in the next version of the MWP or are they errors in the attachment to Appendix B? Also, Table 1 on "Project Data Quality Objectives" contains numerous conflicts with the text in the work plan and the MWP. Project DQOs are contained in several places in this document and the MWP so it is inevitable that there will be contradictions. For example, Table 1 says that the DQO for transect spacing is for no more than a 2-ft. gap. Is this the same as the MWP requirement for "Lane Spacing (Sensor Separation)" contained in the MWP? They appear to be different (the MWP contains a 2% requirement and a 1-ft. radius requirement). Another difference is the Table 1 requirement for "Search transect spacing to vary no more than + or – 20% of spacing specified in sampling design." This appears to be different than the 98% coverage requirement in the MWP Appendix F. Also, Table 1 doesn't have any DQO for reacquisition accuracy as does the MWP Appendix F. Why is this DQO missing?
20	3	2.2.1	Attach to App B	This says the GPO seed items will be "a representative sample of MEC sizes … buried at various depths and orientations". It is recommended that the plan be more specific and indicate how many of what size MEC will be used and to what depths they will be buried in order to meet the requirement for representativeness.
21	4	2.2.1	Attach to App B	The discussion of FAR is confusing. If there is "… no absolute rule to determine an acceptable FAR", then how will an acceptable FAR be determined? Can any criteria be established? The MWP Appendix F says the criteria is for FAR to be no greater than 15%. Is this requirement no longer valid?

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
22	4	2.2.2 2.2.3	Attach to App B	The requirements here for "Downline Data Density" and "Survey Coverage" are not contained in the MWP. Should they be added to the MWP or are these criteria only valid to this one project?
23	4, 5	2.3	Attach to App B	This section contains two requirements for delivery of data packages: "within 1 working day of data collection" and "within 3 working days of data collection". Which is correct?
24	7 10	4.0 5.1	Attach to App B	This section says the GPO area will be selected in the future. It is recommended that it be selected and identified during the planning stage of the project and included in this GPO plan. Selecting the GPO area now would be consistent with guidance documents on the subject including the EPA UXO Handbook and the ITRC "GPOs for MR Projects". This section also says that the number, type, and depth of burial of seed items will be determined later. The same comment as above applies to this. It is recommended that the GPO be planned and that the plan be included in this planning document to comply with best practices as described in the referenced documents.
25	9	Table 3	Attach to App B	Table 3 shows that the GPO will be performed on a lane width of 0.75-ft. (8-in.). This is an extremely narrow lane width. It is only appropriate to perform the GPO at this lane width if the production field work is also going to be performed at this narrow lane width. Please confirm that the production lane width will also be 8-in.
26	10	5.1	Attach to App B	It is a sound technical plan to use a portion of a road for the GPO. This is especially valid for the road survey. It is possible that the roads have been resurfaced with gravel that includes geophysical noise that was imported onto the roads. Therefore, EQB supports using a representative section of road (representative defined as having a surface or various surfaces that are similar to other sections of road to be surveyed) as the GPO.
27	10	5.2	Attach to App B	The concept of having one GPO and then "validation strips" in other locations may be technically sound if it is adequately implemented. However, if the GPO is constructed on a section of road, as described in Section 5.1, it is likely that a validation strip consisting of three targets will not be adequate for the beaches because the geological conditions (no imported gravel, different geology) will be much different than those at the road GPO. It is recommended that an evaluation of the number of targets emplaced on the beach validation strip be performed to determine if three are adequate or whether additional targets are required to establish that the DQOs are being met on the

Cmt. No.	Pg.	Sec.	Line	Comment/Recommendation
				beaches.
28	12, 13	6.0	Attach to App B	This section on QC almost completely repeats the text of the MWP, but not quite. What is the significance of the fact that the MWP contains an "Octant Test" and that this has been replaced by a "Repeat Data" test in the attachment to Appendix B? Is this requirement for the "Octant Test" in the MWP no longer valid?